0.1 - 2.5 ml/min Flow Capillary Kit (5065-4495)

It is possible to use the capillary pump with a flow rate higher than 100 µl/min. For this the pump must be used in the normal mode and some hardware modifications are necessary.

From 100 to 200 µl/min, bypassing the electronic flow control is needed. No other hardware modifications are necessary.

From 200 to 2500 µl/min bypassing the electronic flow sensor, installing the manual purge valve (supplied with the accessory kit), changing the UV detector cell and changing the capillaries in the flow path is needed.

The 0.1 to 2.5 ml/min flow capillary kit (5065-4495) include all the capillaries needed to work with a flow from 200 to 2500 µl/min.

Table 1 0.1 - 2.5 ml/min flow capillary kit 5065-4495 content

Part number	Diameter (µm)	Pressure drop (Bar)	Length (mm)	Material	Volume (µl)	Fitting type
G1375-87400	170	2	280	SST *	6.4	A/A
G1375-87318	125	15	550	PFS **	6.8	B/C
G1375-87312	100	13	200	PFS **	1.6	B/C
G1329-87302	250	3	1800	SST *	88	B/B
G1375-87312	100	13	200	PFS **	1.6	B/C
G1375-87306	100	37	550	PFS **	4.4	C/B
G1316-87300	170	<1	70	SST *	1.6	A/A

Installing the 0.1 - 2.5 ml/min flow capillary kit

Frequency	When the flow rate is higher than 200 µl/min
Tools required	4 mm open wrench (8710-1534) Torque adapter G1315-45003 1/4 - 5/16 inch open wrench (8710-0510) 14 mm wrench (8710-1924)
Parts required	Extended flow range kit (G1376-69707) Purge valve assembly G1311-60009 (supplied in the accessory kit G1376-68705) Purge valve holder G1312-23200 (supplied in the accessory kit G1376-68705) Purge valve holder screw 0515-0175 (supplied in the accessory kit G1376-68705) Washer 2190-0586 (supplied in the accessory kit G1376-68705)

1. Switch off the pump module.
2. Disconnect the capillary 01090-87308 between the mixer and the filter.
3. Connect the capillary G1375-87400 to the mixer outlet.
4. Connect the other end of the capillary G1375-87400 to the purge. valve holder.
5. Install the purge valve holder on the pump head of channel A and fix it with the screw.
6. Screw the purge valve assembly into the purge valve holder and locate the outlet and waste.
7. Use the 14 mm wrench to tighten the purge valve assembly.
8. Remove the waste tube from the EMPV and install it to the waste outlet of the purge valve.
9. Disconnect the capillary on the injection valve (port 1).
10. Connect the capillary G1375-87318 between the purge valve and the injection valve (port 1).
11. Replace the capillary between the injection valve and the analytical head with the capillary G1375-87312.
12. Replace the loop capillary with the capillary G1329-87302 if you have a micro autosampler (G1389A) or with the capillary

G1377-87300 if you have a micro well plate sampler (G1377/78A).

NOTE Don't forget to change the loop or syringe size to 40 µl in the injector configuration windows of the user interface.

Needle seat assembly must be G1329-87101 with the 100 µm capillary (G1389A).

Needle seat assembly must be G1375-87317 with the 100 µm capillary ((G1377/78A).

13 Replace the capillary between the injection valve (port 6) and the column with the capillary G1375-87312. If a thermostat (G1330A/B) is in place use the capillary G1375-87306.

NOTE Above a flow of 200 µl/min it is recommend to rout the flow through the Peltier. The capillary G1316-87300 is then connected between the Peltier "out" and the column inlet.

14 Replace the capillary between the column and the detector with the capillary G1315-87311.

NOTE Replace the 500 nl flow cell with the standard flow cell (G1315-60012), the semi micro flow cell (G1315-6001) or the high pressure flow cell (G1315-60015)

The pressures in Table 2 and Table 3 are indicated values, measured on one system. These values can differ from one system to another.

Table 2 Pressure drop at 2.5 ml/min for different concentrations (no column)

% of organic phase	Pressure (bar) for Methanol	Pressure (bar) for Acetonitrile
0	165	162
20	170	169
40	158	154
60	132	128
80	100	95
100	75	72

Table 3 Pressure drop for different columns and different flow rates, with a gradient from 0 to 100% Acetonitrile in 10 minutes.

Column (id and length)	Flow rate (ml/min)	Pressure (bar)	
100 x 2.1 mm	0.4	92 (max.)	38 (lowest)
100 x 2.1 mm	0.8	174 (max.)	68 (lowest)
125 x 4.0 mm	1.0	131 (max.)	45(lowest)
125 x 4.0 mm	1.5	190 (max.)	67 (lowest)
100 x 4.6 mm	2.0	213 (max.)	86 (lowest)
100 x 4.6 mm	2.5	272 (max.)	112 (lowest)

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